UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

A-S

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/128,289	08/03/98	BURKE	W 2041

025280
MILLIKEN & COMPANY
920 MILLIKEN RD
PO BOX 1926
SPARTANBURG SC 29304

IM22/0702

EXAMINER	
JUSKA, C	
ART UNIT	**PAPER NUMBER**
1771	14

DATE MAILED: 07/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/128,289	Applicant(s) Burke et al.
	Examiner Cheryl Juska	Art Unit 1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Apr 11, 2001

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-8 and 10-17 is/are pending in the applica

4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-8 and 10-17 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other:

DETAILED ACTION

Response to Appeal

1. In view of the Appeal Brief filed on April 11, 2001, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

2. To avoid abandonment of the application, appellant must exercise one of the following two options:

(a) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(b) request reinstatement of the appeal.

3. If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3, 4, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 702 929 issued to Kerr (EP Kerr) in view of US 5,968,631 issued to Kerr (Kerr '631) and in further view of US 5,305,565 issued to Nagahama et al.

Said claims were previously rejected in view of the two Kerr references. Discussions of said Kerr references with respect to the presently claimed invention can be found in the previous Office Actions (Final Rejection, Paper No. 10, section 3; Rejection, Paper No. 8, section 4; and Rejection, Paper No. 5, section 9). The Nagahama reference is cited to support the Examiner's position that the desire to prevent differential shrinkage between a floor mat substrate and the mat backing is known in the art.

Nagahama teaches a floor mat which is designed to prevent waving. Nagahama discusses the problem of differential shrinkage (or linear expansion) between a fiber substrate and a rubber backing during manufacture of a floor mat and during repeated washing and drying of said mat (col. 1, lines 10-34). Said differential shrinkage causes unwanted internal stress, waving, and curling of said mat (col. 2, lines 27-30). Thus, it is reasserted that differential shrinkage in floor mats is a well-established problem in the art.

As previously discussed, EP Kerr discloses washable floor mats with ozone resistance comprised of (a) woven or nonwoven carrier material, (b) a pile material of yarns tufted through said carrier material, wherein said yarns may be cotton, nylon, polyester, etc., and (c) a vulcanized rubber backing sheet which includes a blow agent (page 3, lines 15-23). Thus, it can be seen that EP Kerr teaches the limitations of Applicant's claims 1, 3, 4, and 11-13 with the exception of the

following: (i) the claimed nonwoven substrate materials, (ii) the claimed 'suitable flexibility,' (iii) the claimed 'heat shrinkage factors,' (iv) the claimed 'modulus strength,' and (v) the claimed 'water absorption rate.'

With respect to limitation (i), EP Kerr merely teaches that the carrier layer is "of [a] suitable material" (page 3, line 40). Without a specific teaching as to what materials are "suitable," one of ordinary skill would look to the prior art. For example, Kerr '631 teaches a floor mat having a woven or nonwoven carrier layer of polypropylene (col. 3, lines 8-10). Thus, it would have been obvious to one of ordinary skill in the art to use a known polypropylene nonwoven material for the carrier layer, as is taught by Kerr '631, wherein one of ordinary skill is motivated by the teachings of EP Kerr to choose a "suitable" material for said nonwoven carrier layer and by the teaching by Kerr '613 that a polypropylene nonwoven is a "preferred" carrier layer material.

With respect to limitation (ii), it is asserted that the claimed "suitable flexibility" would be inherent to both Kerr floor mats, in that both are taught to be launderable (EP Kerr, page 2, lines 21-44 and Kerr '631, col. 1, lines 16-23).

With respect to the claimed 'heat shrinkage factor,' 'modulus strength,' and 'water absorption rate' of the rubber backing, it is asserted that said properties are inherent to the invention of EP Kerr. Support for said assertion is found in EP Kerr's use of rubber backing materials which are equivalent to those disclosed by the Applicant. In particular, EP Kerr teaches the same foam rubber backing material comprising acrylonitrile-butadiene rubber (NBR) or

styrene-butadiene rubber (SBR) mixed with EPDM and a blowing agent, as is disclosed by the Applicant (page 3, line 51-page 4, line 33). Thus, due to being equivalent materials, chemically and structurally, it is argued that the invention of EP Kerr inherently meets Applicant's limitations to the heat shrinkage factor, modulus strength, and water absorption rate of the rubber backing.

With respect to the claimed 'heat shrinkage factor' of the nonwoven substrate, it is noted that neither EP Kerr nor Kerr '631 explicitly teach said factor. However, it is argued that it would have been obvious to one of ordinary skill in the art to choose a nonwoven carrier layer substrate with the claimed heat shrinkage factor. Motivation to do so would be to prevent differential shrinkage between the carrier layer and the rubber backing. As noted above, Nagahama clearly teaches the importance of minimizing differential shrinkage between the mat substrate and its rubber backing. The most obvious method of doing this is to choose materials for said substrate and said mat which have equivalent shrinkage factors.

It was previously asserted that the rubber backing of EP Kerr inherently meets Applicant's limitation to the backing having a heat shrinkage factor of 2.0 to 2.5%. (It is noted that Applicant has not traversed this inherency argument). Thus, it would have been obvious to one skilled in the art to choose a nonwoven substrate having a shrinkage factor equivalent to the shrinkage factor of the rubber backing, which, in this case, is a range of 2.0 to 2.5%, in order to prevent curling and waving due to differential shrinkage between the rubber backing and the nonwoven carrier layer upon heating during curing of said rubber backing and/or during laundering of the

floor mat. Therefore, claims 1, 3, 4, and 10-13 are rejected as being obvious over the cited prior art.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the two cited Kerr patents and the cited Nagahama patent, as applied to claim 1 above, and in further view of WO 96/38298 issued to Burke et al.

EP Kerr, Kerr '631, and Nagahama do not teach a reinforcement strip. However, said reinforcement strips are well known in the art of floor mats. For example, Burke discloses reinforcement strips for a rubber backing of a floor mat (abstract). Hence, it would have been obvious to one of ordinary skill at the time of the invention to add reinforcement strips to the floor mat according to EP Kerr, Kerr '631, and Nagahama. Motivation to do so would be to improve the tear resistance of said floor mat. With regard to the claimed heat shrinkage factor, it is asserted that the reinforcement strips would inherently possess said factor, in that said strips are made from the same rubber composition as the backing material. Therefore, claim 2 is rejected as being obvious over the cited art.

7. Claims 6, 7, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the cited Kerr and Nagahama patents, as applied to claims 1 and 11 above, and in further view of US Patent 4,820,566 issued to Heine et al.

Kerr and Nagahama do not explicitly teach the basis weight of the primary backing (nonwoven substrate). However, primary backings having basis weights within the range claimed by the Applicant are well known in the art of carpeting, and particularly, the art of floor mats. For

example, Heine discloses a floor mat with a primary backing of a woven or nonwoven material, wherein said primary backing has a basis weight on the order of 135 g/m^2, or 4 oz/yd^2 (col. 5, lines 31-40). Hence, it would have been obvious to one of ordinary skill in the art to employ a primary backing, or nonwoven substrate, as is taught by Heine, in the invention of Kerr. The lack of an explicit teaching by EP Kerr, Kerr '631, and Nagahama would motivate one of ordinary skill in the art to look to prior art teachings, such as Heine, wherein a primary backing for a floor mat is taught. Therefore, claims 6, 7, 15, and 16 are rejected as being obvious over the cited prior art.

8. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the cited Kerr and Nagahama patents, as applied to claims 1 and 11 above, and in further view of the cited Heine patent and US Patent 5,906,877 issued to Popper et al.

Although Kerr and Nagahama do not teach Applicant's claimed primary backing or pile material, said primary backing and pile material are well known in the art of carpeting. Specifically, EP Kerr teaches a nonwoven primary backing of a suitable material (page 3, line 40). Since a specific primary backing material is not suggested by EP Kerr, it is reasonable to presume that one would look to the prior art in choosing a suitable material. Heine teaches suitable materials for primary backings include polyester and polypropylene. Hence, it would have been obvious to one skilled in the art to choose a polyester nonwoven as a primary backing. Motivation to do so would be the durability, cost, and availability of polyester nonwovens.

With regard to the solution dyed nylon fibers, it is noted that EP Kerr does teach of a 100% nylon pile material, but is silent on the nylon fibers being solution dyed. However, solution

dyed nylon fibers are well known in the carpet art. For example, Popper teaches the use of solution dyed nylon fibers to form tufting yarns (col. 7, line 21-col.8, line 54). Hence, it would have been obvious to one of ordinary skill in the art to employ solution dyed nylon yarns, as is taught by Popper. Motivation to do so would be the inherent advantages of solution dyed fibers, such as durability of dyestuff and a decrease in manufacture costs due to the elimination of a dyeing step. Therefore, claims 5 and 14 are rejected as being obvious over the cited prior art.

9. Claims 8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the cited Kerr and Nagahama patents as applied to claims 1 and 11 above, and in further view of US Patent 4,722,954 issued to Hallworth.

Although Kerr and Nagahama do not explicitly teach the presence of silica in the foam rubber backing, the use of fillers is well known in the art of carpeting. For example, Hallworth teaches the use of silica in a foamed rubber backing useful as a carpet backing (abstract and col. 1, lines 9-27). Hence, it would have been obvious to employ a filler, such as silica, as is taught by Hallworth. Motivation to do so would be to decrease the cost and weight of the rubber backing. Motivation to choose silica as a particular filler would be the low cost of silica (sand). Hence, claims 8 and 17 are rejected as being obvious over the cited art.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl Juska whose telephone number is (703) 305-4472. If attempts to

reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris, can be reached at (703) 308-2414. The official fax number for this TC 1700 is (703) 872-9310 and, for After Final communications, (703) 872-9311.

TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

CHERYL JUSKA
PATENT EXAMINER

cj

June 23, 2001